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09/670,596	09/29/2000	Tomohiko Otose	N00195US	4446

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WHITHAM, CURTIS & CHRISTOFFERSON, P.C.  
11491 SUNSET HILLS ROAD  
SUITE 340  
RESTON, VA 20190

EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/670,596

Applicant(s)

OTOSE ET AL.

Examiner

Hai C Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 15, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 9-14 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 2861

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means," "said," and "comprise," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The amended abstract of the disclosure, filed on 03/11/02, is objected to because it contains the following term "comprising" (line 10), that should be avoided.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 3 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3:

Art Unit: 2861

- The following limitation "said horizontal scanning circuit and said vertical scanning circuit are composed of poly-crystal silicon thin film transistors", which appears to be redundant, since the same limitation is already set forth in the base claim 1.

Claim 16:

- The following limitation "said picture element array, said horizontal scanning circuit and said vertical scanning circuit are formed in a same insulating substrate", which appears to be redundant, since the same limitation is already set forth in the base claim 15.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fork et al. (U.S. 6,072,517) in view of Uno et al. (JP 5-57953).

Fork et al. discloses an integrating xerographic light emitter array comprising a picture element array (OLED array 20) composed of picture elements containing light-emitting devices (OLEDs) arranged in directions of a picture element line and a picture element string in two dimensions (col. 5, lines 41-45), a horizontal scanning circuit (data line driver 32) as one peripheral circuit to feed data signals (via data stream

input line 42, Fig. 3) to each picture element string in said picture element array, and a vertical scanning circuit (via gate drivers 34) as another peripheral circuit to sequentially select and activate each picture element line in said picture element array (col. 6, lines 51-67). wherein said horizontal scanning circuit and said vertical scanning circuit comprise poly-crystal thin-film transistors (polysilicon layer including the TFT pass transistors 104 and the TFT drive transistors 108). With regard to claims 15 and 18, Fork et al. further teaches means (control electronics 22) for selectively controlling the energization power of the amounts of light to be emitted from the picture elements.

Although Fork et al. does not explicitly describe the picture element array, the horizontal scanning circuit, and the vertical scanning circuit being formed on a same insulating substrate, Fork et al. does however show in Fig. 1 the picture element array (20) and the control/drive circuit (22) for a line printing element array being formed directly on the same substrate, and further suggest the picture element array (20) and the control/drive circuit (30, 32) for a two-dimensional printing element array being integrated on a single chip by depositing continuous layers (Figs. 7, 8) (col. 9, line 7 to col. 10, line 47). Regardless, Uno et al. discloses an optical printer head comprising an light emitting type EL element array (2) being integrally arranged with a data drive circuit on the surface of an insulating substrate (1) such as glass, and the data drive circuit containing thin film transistor (3a) composed of polycrystal silicon as an active layer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Fork et al. to have the picture element array and the control/drive circuit formed on the same insulating substrate as

Art Unit: 2861

taught by Uno et al. By doing so, it is possible to provide a more compact optical printer head.

With regard to claims 2, 4, Fork et al. further teaches the light-emitting device being composed of organic electroluminescence devices (organic light emitting diodes), and a means (control electronics 22) for setting amounts of light to be emitted from the light-emitting device in picture elements constituting the picture element lines by each picture element line constituting said picture element array (col. 3, lines 31-52).

With regard to claims 5 and 6, Fork et al. teaches the vertical scanning circuit being so operated that, in a state in which the picture element array is disposed facing a surface of a photosensitive body (14) in a manner that a direction of said picture element line is parallel to a rotation axis of said photosensitive body (Fig. 1), activates said picture element line containing each picture element while each picture element contained in each picture element string in said picture element array is passing sequentially on a same spot on a surface of said photosensitive body, with rotation of said photosensitive body (col. 6, lines 20-67).

With regard to claims 7 and 8, Fork et al. further teaches the number of picture elements in said each picture element string activated by said vertical scanning circuit being able to be changed (Figs. 5, 6) (col. 6, lines 26-35).

### ***Allowable Subject Matter***

7. Claims 9-14, 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-18 have been considered, and are traversed in view of the new grounds of rejection as stated in this Office action.

With regard to Applicants' arguments (page 6, second paragraph, of the Amendment filed on 03/11/02) concerning Fork et al. not "teach[ing] inclusion of horizontal and vertical scanning circuits on the same insulating substrate, as recited in claim 1", the examiner would like to point out the clear suggestion being made by Fork et al. in Fig. 1 that the picture element array (20) and the control/drive circuit (22) for a one-dimensional line printing element array being formed directly on the same substrate, and that such structure would extend to a two-dimensional printing element array as shown in Figs. 7 and 8 such that the drive circuits and the OLED array are integrated on a single chip (col. 10, lines 15-47) . Nevertheless, it is well known in the art of integrated light-emitting device that the driving circuits and the driven light-emitting devices are integrally fabricated on the same insulating [glass] substrate, as evidenced by Uno et al. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Fork et al. to have the picture element array and the control/drive circuit formed on the same insulating substrate as taught by Uno et al. for the purpose of providing a stable and compact optical printer head.

Furthermore, with regard to Applicants' arguments (page 6, second paragraph, of the Amendment filed on 03/11/02) concerning Fork et al. not "teach[ing] ... the particular organic light-emitting devices recited in claim 2", the examiner respectfully disagrees.

Art Unit: 2861

Fork-et al. clearly discloses an optical printer head being composed of a two-dimensional organic light-emitting device array (OLED array 20).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**HAI PHAM**  
**PRIMARY EXAMINER**  
November 6, 2002